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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/064,376

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Jeffrey S. Brown

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EXAMINER

KANG, DONGHEE

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/064,376	BROWN ET AL.	
	Examiner	Art Unit	
	Donghee Kang	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) 4-6 and 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 & 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-3 & 10-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Delpech et al. (US 6,271,574).

Re claim 1, Delpech et al. teach a fuse element formed on a semiconductor substrate (41, Fig.9), the substrate having a standard subset of integrated circuit elements thereon all having a minimum design width and that receive first and second power supply voltages, a conductive line (22) formed on said substrate and having two end portions for connecting two adjacent features (5 & 6, Fig.3) on said semiconductor substrate receiving respective said first and second power supply voltages, said conductive line further having a center portion with said two end portions and said center portion having said minimum design width, said conductive line further having a link portion formed approximately at the center of said center portion and spaced from said end portions which has a sub-minimum width less than said minimum design width, wherein said center portion is spaced from said two end portions by a spacing equal to at least twice said minimum design width, and an application of said first and second power supply voltages across said end portions causes an electrical property of said fuse element to undergo a detectable change. Delpech et al. do not teach the two

minimum design width end portions and the sub-minimum width link portion are produced simultaneously in one photolithographic operation. However, this is a product-by-process limitation. The process limitations are given no patentable weight in device claim. The final structure of claimed invention is identical to the Delpech's device.

Delpech et al. do not explicitly teach the spacing between said center portion and the end portions is sufficient to prevent the end portions from serving as a heat sink. However, this feature is inherent in Delpech's structure because the claimed structure is identical to the Delpech's structure.

Re claim 2, Delpech et al. teach the conductive line including a silicide thereon (Col.6, lines 6-15).

Re claim 3, Delpech et al. teach the changed electrical property is resistance of the conductive line.

Re claims 10-12, Delpech et al. teach the conductive line (polysilicon E-fuse) including a narrow sub minimum width polysilicon line to provide increased self heating during programming when a current is passed through the E-fuse.

wherein the polysilicon E-fuse uses a shorted/open line to distinguish a programmed/unprogrammed E-fuse and

Wherein the polysilicon E-fuse uses a change in resistance to distinguish a programmed/unprogrammed E-fuse.

Response to Arguments

3. Applicant's arguments filed 12-22-05 have been fully considered but they are not persuasive.

Applicant argues that applicant's invention employ substantially different photolithographic approaches to produce a sub-minimum width link. This is not convincing. The process limitations are given no patentable weight in device claim. The final structure of claimed invention is identical to the Delpech's device.

This is a product-by-process limitation. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production.

If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process". In re Thorpe, 777F. 2d 695,698 USPQ 964, 966 (Fed. Cir.1985). See also MPEP 2113. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claim in "product by process" claim or not.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghee Kang whose telephone number is 571-272-1656. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Donghee Kang
Primary Examiner
Art Unit 2811

dhk